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EXAMINER
BUI, HANH THI MINH

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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2011*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-15* is/are pending in the application.

    5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-15* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   Applicant's amendment dated July 18th, 2011 responding to the April 21st, 2011 Office Action provided in the rejection of claims 1-9 and 12-15.

2.   Claims 13 and 15 have been amended.

3.   Claims 1-9 and 12-15 are pending in the application, of which claims 1, 8, 9, 12-15 are in independent form and which have been fully considered by the examiner.

Response to Amendment

4.   The 35 USC § 101 rejection of claims 13 and 15 have been withdrawn in view of Applicant's amendments of the claims.

Response to Arguments

5.   Applicants' arguments filed on July 18th, 2011, have been considered but are not persuasive. Therefore, the rejection of claims 1-9 and 12-15 under section 103(a) is maintained and finally reject with further classification below.

REMARKS

6.   Answers To Applicant's Arguments:

    a.   **Argument:** Chen therefore teaches away from update package that correspond to a form, because Chen puts the intelligent by way of the MMU (See Remarks, Page 8, last 3 lines).

Answer: examiner respectfully disagrees because Chen does disclose in FIG. 3 "the initial block layout 307 for the memory image may include a free block 319 (*form of old version indicates at which end free space is located*)" (Emphasis added – See Col. 8: 6-7).

Chen further discloses in FIG4 and associated text, such as, "*update information (e.g., an update package) usable* by an electronic device to *achieve the updated block layout 409*, starting with the initial memory image block layout 407 (*form*) may thus be created by a generator such as the generator 111 of FIG. 1, for example. An update agent in an electronic device such as, for example, the update agent 129 in mobile device 109 or update agent 229 in mobile handset 209 may then be able to perform an update of memory in a single phase" (Emphasis added – See Col. 9: 22-30).

It should be noted that in order to achieve the updated block layout 409, the update agent in Chen must have used the update package/update information that correspond to a form that can be seen in FIGs. 3 and 4 – starting with the initial image block layout 307 and 407, which have the free space at the beginning of the block.

As noted above, it would be improper to conclude that Chen "***teaches away*** from update package that correspond to a form" (emphasis added), since (1) Chen's teaching is based on "starting with the initial memory image block layout 407 (*a form*)"; (2) nowhere does Chen criticize, discredit, or otherwise discourage the receiving of "*update package that correspond to a form*" as argued by the Applicants. *"The prior art's mere disclosure of more than*

one alternative does not constitute a teaching away from any of these

alternatives because such disclosure does not criticize, discredit, or otherwise

discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73

USPQ2d 1141, 1146 (Fed. Cir. 2004). See also MPEP §2123. Therefore, the

references do not teach away from the claimed invention.

      b.   **Argument:** Claim 6 recites "enlarging said free space to allow said

in-place update" which actually writes in-place to the free memory. That is, it is

part of the updated-new version and once the update is done the so called free

space is not free anymore. Not only is this a different use of free memory, it lacks

both the "determining" and "enlarging" recitations of claim 6 (See Remarks, Page

9, 2nd par. from the bottom).

      Answer: examiner respectfully disagrees because Chen does

disclose "the update process may use a *free block* as the first block to be *written*

with updated content (enlarging free space to allow in-place update)... after

updated block D 329 is created, the free block 319 may move to occupy original

block 317, into which an original block c 315 may be updated and saved as the

updated block C 327 ... starting with the initial block layout 307, an update agent

such as, for example, the update agent 229 of FIG. 2 may create the updated

block layout 309 during an update process, with a free block initially located at

free block 319 finally ending up as the free block 321." (Emphasis added - See

Col. 8: 4-17).

Therefore, the update process of Chen uses the free block to allow in-place update and after the update is done the first block, which used to be free before the update, is now occupied.

c.   **Argument:** Independent claim 8 recites "generating an update package that is adapted for said form of the old version; and conveying said update package to said remote device" As discussed above, O'Neil lacks update packages with different forms, particularly the recited form. Chen is also intended to receive a generic update package. The claim element reciting "conveying" specifies that the update conveyed to a remote device. The MMU of Chen cannot be remote because it must have access to the memory it is supposed to be managing. (See Remarks, Page 6, last 4 lines of 1 par.).

Answer: examiner respectfully disagrees because O'Neil discloses "update process 1100 typically begins after the *appropriate available update package 110 is identified* and transferred to the electronic device (*update package is adapted for the old version*)" (emphasis added – See Col. 33: 37-39). O'Neil further discloses "*determine* if the received update package 110 is *appropriate* for application to the *existing code version (update package is adapted for the old version)*" (emphasis added – See Col. 33: 53-56).

In addition, O'Neil discloses in FIGs. 1A-1B, which transmit/convey the update package to remote device.

As set forth in the previous Office Action, O'Neil does not explicitly teach "*a form indicating at which end of the old version free space is located.*" However, examiner had applied Chen '886, an analogous art with O'Neil,

discloses "an updating method that capable of updating firmware in a fault-tolerant mode using a bank-by-bank update process. Chen '886 further discloses in FIG. 3 – element 307 and associated text, such as, "the initial block layout 307 for the memory image may include a free block 319" (emphasis added – See Col. 8: 6-7). Therefore, O'Neil in combination with Chen encompass all the limitations of claim 8.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   **Claims 1-9 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill (Patent No. 6,832,373 – hereinafter, O'Neill – IDS submitted 5/1/2007) in view of Chen et al. (Patent No. 7,657,886 - hereinafter, Chen '886).**

Regarding claim 1:

O'Neill discloses *a method for in-place updating an old version of a file stored on a storage device to form a new version, the old version including blocks, the method comprising:*

- *determining (i) a [form] of said old version, [indicating at which end of the old version free space is located], and (ii) whether an update package is a corresponding update package for* [said *form*]*; and if so*

(FIG. 1A and associated text, such as, "the *updating operations* can correct errors or problems with existing code resident in the device, add new features or functionality, *change or modify resident applications*, or perform other desired update operations" (emphasis added - See Col. 8: 12-15).

FIG. 9 and associated text, such as, "The non-volatile storage area may be further subdivided into a plurality of blocks or banks 1010 which represent discretely addressable locations used to store information or data. The operating system, firmware code, or other information 1120 to be desirably updated is further stored in the non-volatile memory or storage area 1002 and is distributed across at least some of the plurality of banks 1010." (Emphasis added – See Col. 31: 41-51).

"banks within a particular electronic device may be variably sized and may refer to the contents of one or more logical or physical *blocks* as defined by a particular architecture for an electronic device" (emphasis added – See Col. 31: 14-26).

FIG. 10 and associated text, such as, "update process 1100 typically begins after the *appropriate available update package 110 is identified* and transferred to the electronic device" (emphasis added – See Col. 33: 37-39).

"*determine* if the received update package 110 is *appropriate* for application to the *existing code version*" (emphasis added – See Col. 33: 53-56)).

-        *updating blocks in said old version according to said corresponding*

update package, [*giving rise to a new version having an alternative form, where*

free space in the new version is at an opposite end to the old version].

("update package comprising an instruction set which indicates how to

transform the resident operating code into the updated operating code and how

to generate the *update data blocks utilizing* at least in part the plurality of data

blocks of the resident operating code" (emphasis added – See Col. 5: 19-23).

FIG. 9 and associated text, such as, "*apply update instruction* state 1130

where the appropriate instruction from the instruction set is executed to *modify*

the working bank of information in such a manner that *the old code version*

contained in the bank is transformed into the new code version." (Emphasis

added – See Col. 32: 52-57).

"these bank may contain information which comprises the operating

system, firmware code, or application that conveys functionality to the electronic

device and which is *desirably updated from the first code version to the second*

code version" (emphasis added – See Col. 33: 32-36)).

But, O'Neill does not explicitly teach:

-        *a form indicating at which end of the old version free space is*

located.

However, Chen '886, an analogous art with O'Neil, discloses an updating

method that capable of updating firmware in a fault-tolerant mode using a bank-

by-bank update process. Chen '886 further discloses in FIG. 3 – element 307

and associated text, such as, "the initial block layout 307 for the memory image

may include a free block 319 (*form of old version indicates at which end free space is located*)" (Emphasis added – See Col. 8: 6-7).

But, O'Neill does not explicitly teach:

-        *giving rise to a new version having an alternative form, where free space in the new version is at an opposite end to the old version.*

However, Chen '886 discloses in FIGS. 3-4 and associated text, such as, "the update process may use a *free block* as the first block to be *written with updated content.* Thus, the initial block layout 307 for the memory image may include a free block 319 that is used during update 343 to *create an updated block D 329* in updated block layout 309, from an original block d 317. Similarly, after updated block D 329 is created, the free block 319 may *move to occupy original block 317*, into which an *original block c 315 may be updated and saved as the updated block C 327* (*giving raise to a new version*), and so on. Thus, *starting with the initial block layout 307*, an update agent such as, for example, the update agent 229 of FIG. 2 may *create the updated block layout 309* during an update process, with *a free block initially located at free block 319 finally ending up as the free block 321* (*alternative form, where free space in the new version is at an opposite end to the old version*)." (Emphasis added –See Col. 8: 4-17).

Chen further discloses in FIG4 and associated text, such as, "*update information (e.g., an update package) usable* by an electronic device to *achieve the updated block layout 409*, starting with the initial memory image block layout 407 (*form*) may thus be created by a generator such as the generator 111 of FIG.

1, for example. An update agent in an electronic device such as, for example, the update agent 129 in mobile device 109 or update agent 229 in mobile handset 209 may then be able to perform an update of memory in a single phase" (Emphasis added – See Col. 9: 22-30).

It should be noted that in order to achieve the updated block layout 409, the update agent in Chen must have used the update package/update information that correspond to a form that can be seen in FIGs. 3 and 4 – starting with the initial image block layout 307 and 407, which have the free space at the beginning of the block.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Chen '886 into the teachings of O'Neill because such combination would have update provided a technique to update the same blocks of flash memory employing only one flash erase and one flash write, thereby reducing the update time considerably as suggested by Chen '886 (See Col. 3: 52-55).

Regarding claim 2:

O'Neill and Chen '886 disclose *the method of Claim 1, wherein said form is a B-form and wherein said alternative form is an E-form.*

(Chen '886 further discloses in FIGS. 3 and 4).

Regarding claim 3:

O'Neill and Chen '886 disclose *the method of Claim 1, wherein said form is an E-form and wherein said alternative form is a B-form.*

(Chen further discloses in FIGS. 3 and 4).

Regarding claim 4:

O'Neill and Chen '886 disclose *the method of Claim 1, further comprising: for each block in said new version, verifying that content in said new block is successfully stored.*

(O'Neill further discloses "the bank information is validated to insure the contents reflect the desired code." (Emphasis added – See Col. 35: 63-64)).

Regarding claim 5:

O'Neill and Chen '886 disclose *the method of Claim 1 wherein said storage device is accommodated in a cellular telephone.*

(O'Neill further discloses "in the case of a *mobile phone*, the *current code version* may reflect the *contents of the memory or storage* area to be updated. The contents of the memory or storage area may further comprise the operating system code, application code, firmware contents, or other instruction sets used by the electronic device to convey functionality." (Emphasis added – See Col. 1660-65)).

Regarding claim 6:

O'Neill and Chen '886 disclose *the method of Claim 1 further comprising:*

determining whether an amount of free space in the old version is too small to

allow in-place update of the old version to the new version; and if so, enlarging

said free space to allow said in-place update.

(Chen '886 further discloses in FIG. 1 and associated text, such as, "In

addition, an update of multiple blocks of the non-volatile memory 123 by an

update agent such as the update agent 129, for example, may *employ one or*

more free memory banks (enlarging free space) (sometimes referred to as

bubbles or empty blocks). The free memory banks may be employed such that

an update of designated blocks (e.g., according to some predefined order) may

be conducted so that the contents of an 'old' logical or virtual block is maintained

(e.g., for fault tolerance purposes) until the successful update and flash memory

write into a different physical block of memory is completed. Subsequent to the

successful update of a block, the next logical block in the block order may be

updated (e.g., in RAM) and written into a different (often subsequent) block

adjacent to the previously updated block, and so on." (Emphasis added – See

Col. 5: 52-67).

Furthermore, Chen discloses "the update process may use a *free block* as

the first block to be *written with updated content (enlarging free space to allow in-*

place update)... after updated block D 329 is created, the free block 319 may

move to occupy original block 317, into which an original block c 315 may be

updated and saved as the updated block C 327 ... starting with the initial block

layout 307, an update agent such as, for example, the update agent 229 of FIG.

2 may create the updated block layout 309 during an update process, with a free
block initially located at free block 319 finally ending up as the free block 321."
(Emphasis added - See Col. 8: 4-17).

Therefore, the update process of Chen uses the free block to allow in-
place update and after the update is done the first block, which used to be free
before the update, is now occupied.).

Regarding claim 7:

O'Neill and Chen '886 disclose *the method of Claim 5, wherein said
enlarging includes: updating said old version to a temporary version having
content equivalent to said old version with an alternative form to said old version
and a larger free space than in said old version; and updating said temporary
version to form said new version.*

(Chen '886 further discloses in FIG. 1 and associated text, such as, "In
addition, an update of multiple blocks of the non-volatile memory 123 by an
update agent such as the update agent 129, for example, may *employ one or
more free memory banks* (sometimes referred to as bubbles or empty blocks).
The free memory banks may be employed such that an update of designated
blocks (e.g., according to some predefined order) may be conducted so that the
contents of an *'old' logical or virtual block (temporary version)* is maintained (e.g.,
for fault tolerance purposes) until the successful update and flash memory write
into a different physical block of memory is completed. Subsequent to the
successful update of a block, the next logical block in the block order may be

updated (e.g., in RAM) and written into a different (often subsequent) block

adjacent to the previously updated block, and so on." (Emphasis added – See

Col. 5: 52-67)).

Regarding claim 8:

O'Neill discloses *a method for in-place updating an old version of a file*

stored on a storage device of a remote device to form a new version, the method

comprising:

- *determining a [form] of said old version [indicating at which end of*

the old version free space is located];

- *generating an update package that is adapted for [said form of] the*

old version; and

(FIG. 1A and associated text, such as, "the *updating operations* can

correct errors or problems with existing code resident in the device, add new

features or functionality, *change or modify resident applications*, or perform other

desired update operations" (emphasis added - See Col. 8: 12-15).

FIG. 9 and associated text, such as, "The non-volatile storage area may

be further subdivided into a plurality of blocks or banks 1010 which represent

discretely addressable locations used to store information or data. The operating

system, firmware code, or other information 1120 to be desirably updated is

further stored in the non-volatile memory or storage area 1002 and is distributed

across at least some of the plurality of banks 1010." (emphasis added – See Col.

31: 41-51).

"banks within a particular electronic device may be variably sized and may refer to the contents of one or more logical or physical *blocks* as defined by a particular architecture for an electronic device" (emphasis added – See Col. 31: 14-26).

FIG. 10 and associated text, such as, "update process 1100 typically begins after the *appropriate available update package 110 is identified* and transferred to the electronic device" (emphasis added – See Col. 33: 37-39).

"*determine* if the received update package 110 is *appropriate* for application to the *existing code version*" (emphasis added – See Col. 33: 53-56).

-        *conveying said update package to said remote device.*

(FIGS. 1A and 1B).

But, O'Neill does not explicitly teach:

-        *a form indicating at which end of the old version free space is located.*

However, Chen '886, an analogous art with O'Neil, discloses an updating method that capable of updating firmware in a fault-tolerant mode using a bank-by-bank update process. Chen '886 further discloses in FIG. 3 – element 307 and associated text, such as, "the initial block layout 307 for the memory image may include a free block 319" (emphasis added – See Col. 8: 6-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Chen '886 into the teachings of O'Neill because such combination would have update provided a technique to update the same blocks of flash memory employing only one flash

erase and one flash write, thereby reducing the update time considerably as suggested by Chen '886 (See Col. 3: 52-55).

Regarding claim 9:

This is another apparatus version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 12:

This is another program storage device version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 13:

This is another computer program-product version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 14:

This is another program storage device version of the rejected claim 8 above, wherein all the limitations of this claim have been noted in the rejection of claim 8.

Regarding claim 15:

This is another computer program product version of the rejected claim 8

above, wherein all the limitations of this claim have been noted in the rejection of

claim 8.

Conclusion

9.   **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10.   A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

11.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Hanh T. Bui whose telephone number is

(571) 270-1976. The examiner can normally be reached on 7:30 AM - 3:00PM /

Monday-Friday.

12.   If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Tuan Dam can be reached on (571) 272-3695. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

13.   Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/Hanh T Bui/   /Tuan Q. Dam/
Examiner, Art Unit 2192   Supervisory Patent Examiner, Art Unit 2192
September 28, 2011